

PETRO-PROCESSORS OF LOUISIANA, INC.

LOUISIANA

EPA ID# LAD057482713

Site ID: 0600442



REGION 6
CONGRESSIONAL
DISTRICT 06
East Baton Rouge Parish

Updated: August 2005

Site Description

- Location:**
- The Petro Processors Inc. site consists of two locations near Scotlandville, East Baton Rouge Parish, Louisiana, about ten miles north of the City of Baton Rouge.
 - The Scenic Highway location is just west of US Highway 61 and north of the intersection of Scenic Highway 964 and US Highway 61.
 - The Brooklawn location is west, southwest of the Scenic Highway location.
 - Adjacent to the Brooklawn location are portions of Devil's Swamp and Bayou Baton Rouge.
- Population:**
- The community is predominantly rural with a few houses located about 800 to 1000 feet from the border of Scenic Highway location.
- Setting:**
- Nearest residence is about 3,000 feet from the site.
 - Nearest drinking water well is 3,000 ft. up gradient of the site.
 - The Petro Processors site comprises two former petrochemical disposal areas situated about 1.5 miles apart: the Scenic Highway and Brooklawn areas, totaling 77 acres.
 - Brooklawn is the larger of the two areas, currently estimated at 60 acres. Bayou Baton Rouge meanders around both Scenic and Brooklawn, and fingers out into Devil's Swamp.
 - Bayou Baton Rouge historically ran through both Brooklawn and Scenic, but was rerouted during early remedial activities at each site.
 - Most of the Brooklawn area was covered by a soil cap, seeded, and contoured to control erosion. In 1994, a full scale treatment facility was constructed to treat contaminated ground water and non-aqueous phase liquids (NAPLs) recovered. Approximately 98 sumps were placed in operation at the Brooklawn location from 1991 to 1998 and are no longer in operation. Installation of recovery wells started in 1994, and continue until a total of 214 were in place. Up to 191 wells were in active production in 1991. Further modeling completed in 2000, indicated that recovery would be enhanced and further movement will be decrease by turning off water producing wells. Thus, in concurrence with LDEQ and EPA, perimeter wells were turned off. In October 2001, 65 waste recovery wells were in operation.
 - The Brooklawn area still has one disposal pond which remains partially open ("Lower Lagoon") where drill cuttings (from recovery well installation) are deposited; all other pits and two former ponds ("Upper Lagoon" and "Cypress Swamp") have been filled and covered.
 - The Scenic area is now covered by a soil cap, seeded, and contoured to control erosion. Out of eleven (11) potential recovery well locations, seven (7) were proposed and approved to be used to recover NAPLs from the former pit area. Contaminated water with the NAPLs is shipped to Brooklawn for treatment, disposal and destruction at the Brooklawn facilities.
 - Monitoring wells were installed at Scenic to study Natural Attenuation (NA) of the dissolved plume. Upon completion of the NA Study, a decision was made to proceed with constructing a hydraulic containment system similar to that employed at Brooklawn, removing the free phase, while allowing NA to occur in the groundwater containing dissolved

contamination.

- This Scenic remedy also includes long term monitoring of ground water, and monitoring of Natural Recovery (NR) of slightly contaminated sediments in portions of Bayou Baton Rouge between the Scenic site and Bakers Canal.

Hydrology:

- Portions of both sites are on the Bayou Baton Rouge flood plain.
- The bayou flood plain at Brooklawn is also on the Mississippi River flood plain; the Mississippi flood plain immediately south of Brooklawn (Devil's Swamp) is a Wetland.
- Pleistocene terrace deposits are predominately clays, while alluvium deposits are inter layered silty clays and sandy silts.
- The shallow ground water regime is referred to as the -40 MSL zone. The deep ground water regime of concern is the "400-foot sand".
- Receptor analysis modeling has been conducted (and is constantly updated with new information obtained from recovery well installation) to protect the "400-foot sand" at both locations. This effort includes use of MODFLOW and MT3D models.

Present Status and Issues

- Recovery of Non Aqueous Phase Liquids (NAPLs) continues at the Brooklawn and Scenic sites.
- Remedial Action activities will be implemented in the swamp area immediately next to the Brooklawn site by the end of 2002, when the Mississippi River water level is low and access to the swamp is available.
- Activities at the swamp started under the oversight of EPA, the State and EPA contractors, and are moving satisfactory. Approximately 700 feet of channels have been remediated by the end of October 25, 2002.
- At the end of 2002 approximately 2,415 feet of the middle channel have been remediated, only a few hundred feet remain to be backfilled and completion has been delayed due to weather conditions and rain.
- Sediment sampling of Bayou Baton Rouge adjacent to the Scenic site was completed on December 3, 2002. Sediment sampling is part of the monitoring program to verify that natural recovery continues taking place in the bayou after the on-site activities at the Scenic site.
- Early in 2003, remediation of middle channel was completed, the EPA and State representatives conducted a final inspection on February 12, 2003. A total of 3,035 feet of channel were remediate.
- A follow up inspection was conducted in September 2003 to verify middle channel conditions.
- Site long term monitoring activities and inspection continue during 2004 under approved plans.
- Photographs showing current and past conditions before the remedial actions, are available in the EPA Internet pages at URL <http://www.epa.gov/earth1r6/6sf/6sf-la.htm>

Wastes and Volumes

- The site's principal pollutants are petrochemical wastes including the following:
 - Chlorinated Hydrocarbons
(Hexachlorobutadiene and Hexachlorobenzene are predominant contaminants)
 - Polycyclic Aromatic Hydrocarbons (PAHs)
 - Heavy Metals
 - Oils

Site Assessment and Ranking

NPL LISTING HISTORY

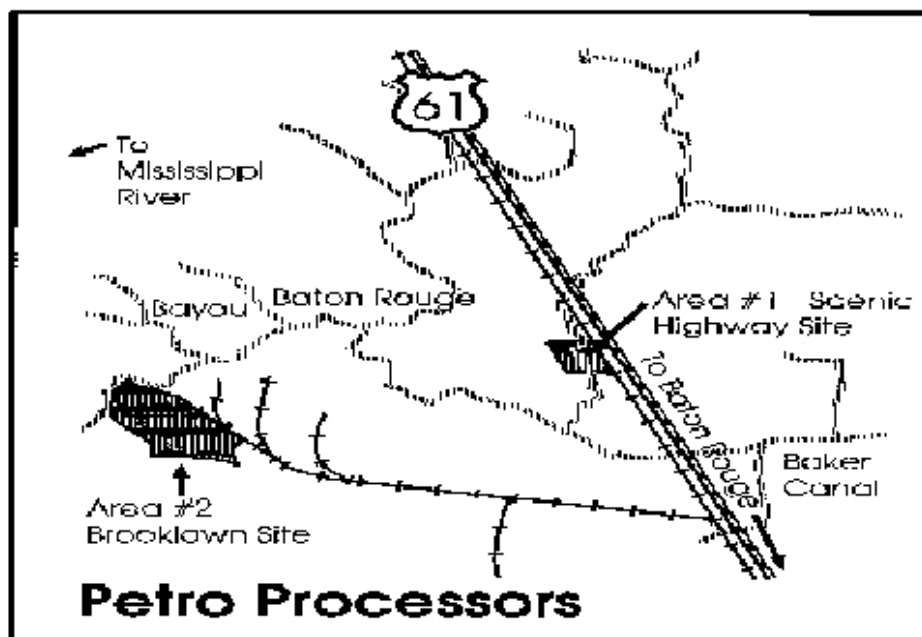
Site HRS Score: 41.44

Proposed Date: 9/8/83

Final Date: 9/21/84

NPL Update: No. 1

Site Map and Diagram



The Remediation Process

Site History:

- The Scenic Highway area originated as a borrow pit used for petrochemical waste disposal from 1961-1974. Brooklawn was opened in 1969 to accept petrochemical wastes since the Scenic area was filled to capacity. Operations at Brooklawn ceased in 1980, but ponds were left open to the elements.
- Although filled and closed in 1974, the potential for leachate migration and erosion of the Scenic pit was of concern due to the hazardous constituents contained in the pit.
- In July 1980, the United States, the State of Louisiana, the City of Baton Rouge, and the Parish of East Baton Rouge filed suit against Petro Processors, Inc. and several generators which had materials transported to the site. A Consent Decree (CD) for site closure was eventually developed with the participation of all parties and entered into the Federal Court's record on February 16, 1984.
- The CD required the Defendants to investigate, design and implement a conceptual remedial action specified in the CD. The conceptual remedy generally called for the excavation and solidification of all visible contamination at the site and subsequent placement into an on site landfill with an "appropriate" liner and leachate collection system. Potential remedies included the solidification, incineration, or off site disposal of all nonaqueous phase wastes within the lagoons. In addition, recovery wells were to be

installed and operated in those areas where free phase organic liquids are present.

- Shortly after the entering of the CD, the Industry Defendants (through a company they set up known as NPC Services, Inc.) prepared workplans, conducted investigations, and prepared a Remedial Design and Construction Plan which detailed site remediation activities. Unfortunately, during the early phases of construction (late 1987) NPC's air monitoring program detected the release of volatile hazardous substances from the Brooklawn site. NPC determined that vapor emissions were, or could be, generated from several sources.
- NPC subsequently reported in a Supplemental Remedial Action Plan ("SRAP") dated December 1988 that, "After a thorough study of the causes and effects of these releases it was determined that remediation could not continue under the approved plan without causing further releases." Under the terms of the CD, NPC was then required to examine alternate methods of remediation. The SRAP presented NPC's evaluation of alternate remediation methods.
- The various alternatives investigated by NPC included (1) modification of the original closure plan by modifying excavation techniques and deploying typical emission source controls such as foams, water sprays, visqueen and soil covers, (2) in situ volatilization, (3) bioremediation, (4) incineration, (5) solvent extraction, (6) in situ solidification and capping, (7) vapor containment structures and (8) hydraulic containment and recovery. NPC determined that hydraulic recovery and containment was the only technology that could be safely employed at that time due primarily to the potential for vapor emissions problems caused by implementation of the other technologies.
- Upon review, EPA Region 6 rejected the SRAP because it did not contain a sufficiently rigorous evaluation of the alternate technologies. The EPA subsequently embarked upon its own review of possible alternative remediation technologies. Upon completion of its eighteen-month long study, the EPA concluded that two other technologies in addition to hydraulic containment and recovery had merit. These two alternatives included air/steam stripping and in situ soil flushing. However, the EPA recognized that these technologies needed to be bench-scale and pilot tested before implementation.
- The Federal Judge recognized EPA's concern and ordered Louisiana State University (LSU) to conduct research on the applicability of alternate technologies and to act as his expert witness to resolve technical disputes between the Industry Defendants and the EPA.
- The end result of all the discussions among the EPA, the State of Louisiana and the NPC was an amended Consent Decree in 1989 which specified the implementation of hydraulic containment and recovery. NPC subsequently began additional investigations, design and construction activities necessary to implement the new remedy.
- The existing 1984 CD and 1989 Amendment are a framework for a Source Control and Ground water Containment Remedial Action (RA) for the Petro Processors Site. Site boundaries have evolved to encompass all areas where contaminants have migrated and are well defined by Remedial Planning Activities (RPAs) reports, incorporated by reference into the Consent Decree.
- All contaminated source areas at both sites, except the lower lagoon at Brooklawn, were capped in the early 1990s.

Sitewide activities:

- A full scale treatment facility operates at the Brooklawn location to manage contaminated ground water and organics recovered from Brooklawn and those planned to be recovered from Scenic. The treatment scheme includes the following: 1) Phase separate water and organics; 2) air strip contaminated water; 3) incinerate fumes from air strippers and incinerate organic liquids from phase separation units; 4) polish treated water via carbon adsorption; and 5) discharge the water via a National Pollutant Discharge

Elimination System (NPDES) permit. This constitutes or is known as the Liquid Treatment And Disposal System (LTADS).

- A trial burn was completed November 7, 1994, and the LTADS facility became fully operational.

Scenic Site:

- The Scenic Remedial Planning Activities (RPA) report, Addendum D, was approved by the EPA in late July 1999. Construction activities (installation of well pumps, electrical, controls, piping, liquids transfer facility, etc.) started around September 1999 and were completed in January 2000. Recovery operations were started in February 2000.
- Natural attenuation of the dissolved plume is quantified and monitored to ensure remedial goals are being met. As part of the hydraulic containment and recovery, Scenic recovered contaminated liquids are transported to the Brooklawn site for treatment at the LTADS. Scenic remedial activities also include monitoring of the ground water, and monitoring of Natural Recovery of stream sediments.

Brooklawn Site, Bayou Baton Rouge and Devil's Swamp:

- In October 1998, the Brooklawn recovery system included up to approximately 190 recovery wells and 98 recovery sumps. Currently the sumps or french drains are no longer in operation, and many of the wells were turned off to enhance recovery of NAPLs and reduce migration of NAPLs. The Scenic recovery system includes 7 recovery wells.
- As of July 2002, 68 waste recovery wells are operating at the Brooklawn site and 4 wells are operating at the Scenic site. The reduction in recovery wells corresponds to the closing of wells no longer producing NAPLs or recovering free phase.
- Recovery operations are ongoing at the Brooklawn site. Recovered liquids use to go into the LTADS for treatment and disposal. Due to a reduction in the amount of free phase available for recovery continued operation of the LTADS air strippers and incinerator is no longer needed. The water is now carbon treated and the organic portion are accumulated for offsite incineration.
- A Brooklawn updated Remedial Planning Activities (RPA) report, Addendum was prepared and submitted in July 2001. The document presents future remedial activities planned for Bayou Baton Rouge and the Devil's Swamp area immediately next to the Brooklawn site. This document was approved in November 2001.
- Modeling efforts at Brooklawn are being updated with new model now available and preliminary results were presented to the EPA, LDEQ and LSU representatives on April 2004.
- The EPA in coordination with the LDEQ and NPC Services will conduct a Five-Year Review of the remedy in 2005. A fact sheet was recently mailed in March 2005.

Health Considerations:

- In the past, spontaneous ignition of the waste resulted in fires in the upper lagoon on several occasions.
- In 1969, a spill from the lagoons contaminated portions of a nearby ranch and 30 cattle were killed.
- Site is located over the "400-foot sands", a major drinking water aquifer.

Other Environmental Risks:

- Lagoons at the Site were located in the Mississippi River flood plain.
- Bayou Baton Rouge flows by both sites and fingers into Devil's Swamp, a Wetland area adjacent to both Scenic and Brooklawn. This area is used for recreational hunting and fishing. Currently a State health advisory covers a portion of Devil's Swamp and Devil's Lake.

Record of Decision

Signed: Consent Decree 1984
Amended: Consent Decree 1989

- The existing 1984 Consent Decree and 1989 Amendment are a framework for a Source Control and Ground water Containment Remedial Action (RA) for the Petro Processors Site.
- The SRAP, incorporated by reference into the CD, calls for a system of about 200 recovery and containment wells at the Brooklawn Site, following capping of the contaminated lagoons. A similar system has been designed for Scenic and will be used in addition to the Natural Attenuation processes occurring in the ground water and Natural Recovery in stream sediments.

Community Involvement

- Community Involvement Plan: Developed 10/84, revised 01/88, 03/91, and current version 5/91.
- Open houses and workshops: 9/89, 7/90, 1/91, 3/94, 6/94 (Site Tour), 7/94.
- Original Proposed Plan Fact Sheet and Public Meeting: N/A.
- Original ROD Fact Sheet: N/A.
- Milestone Fact Sheets and Site Updates: 07/87 press releases; 02/89; 9/89, 10/89, 06/90, 02/91 (common questions answered), 3/91, 9/91, 3/94, 10/94, 11/94, 3/97, 3/05.
- Citizens on site mailing list: 112
- Constituency Interest: Concerned. Odors, contamination of air, surface and ground water, PRP oversight.
- Site Repository: Reception/guard facility at Brooklawn main operations area.

Technical Assistance Grant

- Availability Notice: None
- Letters of Intent Received:
 - 1) 9/18/90 - Coalition for Community Action (CCA);
 - 2) LOI notice published 10/14/90.
- Final Application Received: 01/23/91
- Grant Award: 09/04/91 to CCA
- Budget period: 10/01/91-09/30/94
- Current Status: CCA selected Wilma Subra as their technical advisor on 7/25/92, and utilized the TAG funds for review of site technical documents. After completing this work the group requested close-out of the grant, which was done in October 1994.
- Current Status: TAG closed on 04/21/95.

Contacts

- **Remedial Project Manager:** Bartolome J. Cañellas, 214-665-6662, EPA (6SF-LP)
- **State Contact:** Glen Miller (LDEQ)
- **Community Involvement:** Bartolome J. Cañellas, 214-665-6662, EPA (6SF-LP)
- **Attorney:** Edwin Quiñones, 214-665-8035, EPA (6RC-S)
- **Regional Public Liaison:** Arnold Ondarza 1-800-533-3508, EPA 6SF
- **State Coordinator:** Kathy Gibson, 214-665-7196, EPA (6SF-LT)
- **Prime Contractor:** TechLaw - Enforcement Support, EPA
NPC, Inc. - PRPs' Remedial Company

Enforcement

- CD entered into the Record on February 17, 1984.
- The CD did not provide for recovery of future oversight costs. The CD provided for recovery of past costs expended prior to the CD (total equal to \$600,000 per Section 26 of the CD).

Benefits

- The rerouting of Bayou Baton Rouge and the engineered clay caps covering the Brooklawn and Scenic Sites reduced the migration of site contaminants and prevented air emissions from the source areas and exposure to nearby industries and residences.
- The French drain system in Cypress Swamp and the recovery wells at Brooklawn also helped control migration of contaminants in the subsurface.
- Construction of the full scale treatment facility, for contaminated ground water and recovered organics, ensured continued operation of the hydraulic containment and recovery system to the maximum extent practical.
- Continued research by LSU to enhance recovery of organics at the sites ensures that remedy implementation is successful.
- Risk Assessment work at the site (air risk assessment completed, indirect risk assessment for incinerator completed, and the ecological and human health assessments for the surrounding wetlands environment recently completed) ensures that technologies being implemented are protective of human health and the environment.